MOORE INDUSTRIES

Superior Surge Suppressor Solutions

February 2000 | Data Sheet 13.00

Description

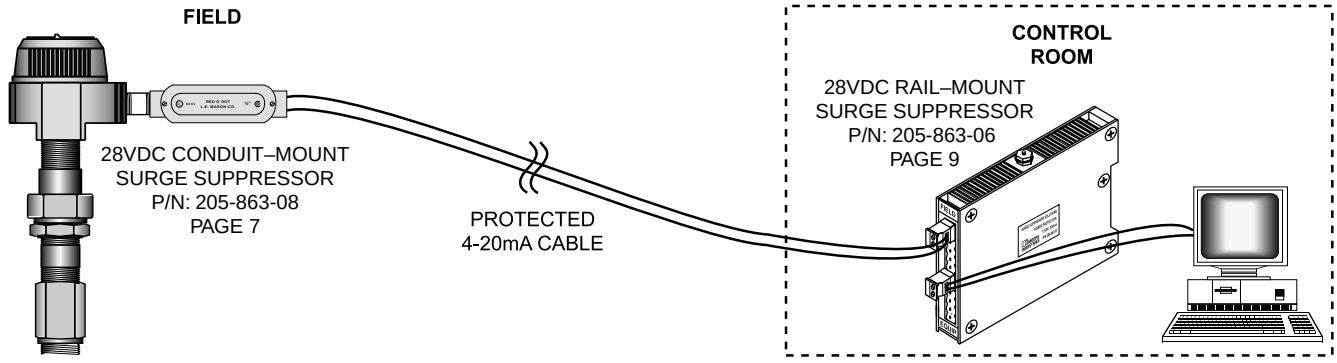
Moore Industries' family of reliable surge suppressors protects your process against failures caused by lightning, power spikes, and many other types of overvoltage damage. Overvoltage damage takes many forms, from gradually reducing measurement accuracy and product quality to destroying a unit outright and causing an unneccessary and costly shutdown.

Providing up to 3kA of surge protection per line at subnanosecond speeds, our suppressors protect your process with the most effective suppression available. Combine this lightning-fast protection with a multistage design and a safety feature that resets automatically after each surge, and you have a hassle-free surge suppressor that provides affordable, powerful protection.

Features

- **Protect from failure due to overvoltage stress.** Our suppressors protect against power fluctuations such as switching inductive loads, switch contacts arcing, motors cycling, fuses clearing, circuit breakers tripping, or power outages that can gradually wear down the life of electronic circuits.
- **Hassle-Free Protection.** Easy installation combined with a safety feature that automatically resets the suppressor after each surge makes these surge suppressors hassle-free and maintenance-free.
- **Versatile Housings.** These accessories to our popular line of interface instruments are available in nine versatile housing configurations that can protect every portion of your process from damage.

Figure 1. *For complete loop protection, it is necessary to place surge suppressors at both ends of the loop.*



The Interface Solution Experts

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Superior Surge Suppressor Solutions

Ordering Information

What type of line do you need to protect?	What type of unit does this line connect to?	What type of solution do you need?	What are some examples of units that this solution works with?	What is the Part Number for your solution?	Where is more information on this solution?
4-20mA Loop	DIN-Style (Rail-mount instruments)	**DIN-Plug Surge Suppressor** – This plug-in terminal block surge suppressor inserts into Moore Industries DIN-style housing terminals to protect 4-20mA lines.	ECT [DIN], RIY, SIY, SPT, THZ, TIY, TRY	205-863-01	Page 6
		Enclosure-Mount Surge Suppressor – A compact unit, this 28VDC suppressor fits into Moore Industries field-mount enclosures or mounts on top of DIN-style instruments to protect 4-20mA lines.	SCX, ACX, DDA, DDS, ECT[ECD], FCT, IPT, MDS, PIT, SIX	205-863-02	Page 4
		28VDC Rail-Mount Surge Suppressor – Enclosed in a Moore Industries DIN-style housing, this surge suppressor protects 4-20mA lines.	Any unit with a 4-20mA input/output	205-863-06	Page 9
	Field-Mount Enclosure	**Enclosure-Mount Surge Suppressor** – A compact unit, this 28VDC suppressor fits into Moore Industries field-mount enclosures or mounts on top of DIN-style instruments to protect 4-20mA line.	ACX, DDA, DDS, ECT[ECD], MDS, PSD, SCX, SIX, TDY, TDZ	205-863-02	Page 4
		General Location Conduit-Mount Surge Suppressor – This 28VDC general location conduit-mount surge suppressor mounts on the outside of field-mount housings to protect 4-20mA line.	Any unit with a ½" NPT conduit pipe and a 4-20mA input or output	205-863-08	Page 7
		Explosion-Proof Conduit-Mount Surge Suppressor – This 28VDC suppressor mounts on the outside of field-mount housings to protect 4-20mA line with explosion-proof certifications.	Any unit with a ½" NPT conduit pipe and a 4-20mA input or output	205-863-09	Page 7
4-Wire Instrument Power Lines	28VDC Power Lines	**28VDC Wire-In Surge Suppressor** – Protect the power terminals of 4-wire (line-powered) instruments with this surface-mount surge suppressor.	Any unit that is powered by 28VDC	205-863-06	Page 9
	120VAC Power Lines	**120VAC Rail-Mount Surge Suppressor** – Enclosed in a Moore Industries DIN-style housing, this 120VAC surge suppressor protects the power terminals of 4-wire (line-powered) instruments.	Any unit that is powered by 120VAC	205-863-05	Page 8
	220VAC Power Lines	**220VAC Wire-In Surge Suppressor** – Surface-mount surge suppressor protects the power terminals of 4-wire (line-powered) instruments.	Any unit that is powered by 220VAC	205-863-03	Page 11
RS-422/RS-485 Communication Lines	12VDC Power Lines	**12VDC Rail-Mount Surge Suppressor** – Enclosed in a Moore Industries DIN-style housing, this 12VDC surge suppressor protects data communication lines such as RS-422 and RS-485.	CCS, DDS, MDS	205-863-07	Page 9

Certifications

Underwriter's Laboratories:

UL Listed Component – General (Ordinary) Location:
- *DIN-Plug Surge Suppressor, P/N 205-863-01
- *Enclosure-Mount Surge Suppressor, P/N 205-863-02
- *Data Line Rail-Mount Surge Suppressors, P/N 205-863-06 & 205-863-07
- *Conduit-Enclosed Surge Suppressors, P/N 205-863-08 & 205-863-09
  Conduit-Enclosed Surge Suppressor Housing, P/N 205-863-08

UL Listed Component – Explosion Proof: Class I, Groups C & D; Class II, Groups E, F, & G; Class III
Conduit-Enclosed Surge Suppressor Housing, P/N 205-863-09

UL Recognized Component, USA/Canada – General (Ordinary) Location:
- *AC Wire-In Surge Suppressor, P/N 205-863-03
- AC Rail-Mount Surge Suppressor, P/N 205-863-05

*Certification pending, consult factory for details.

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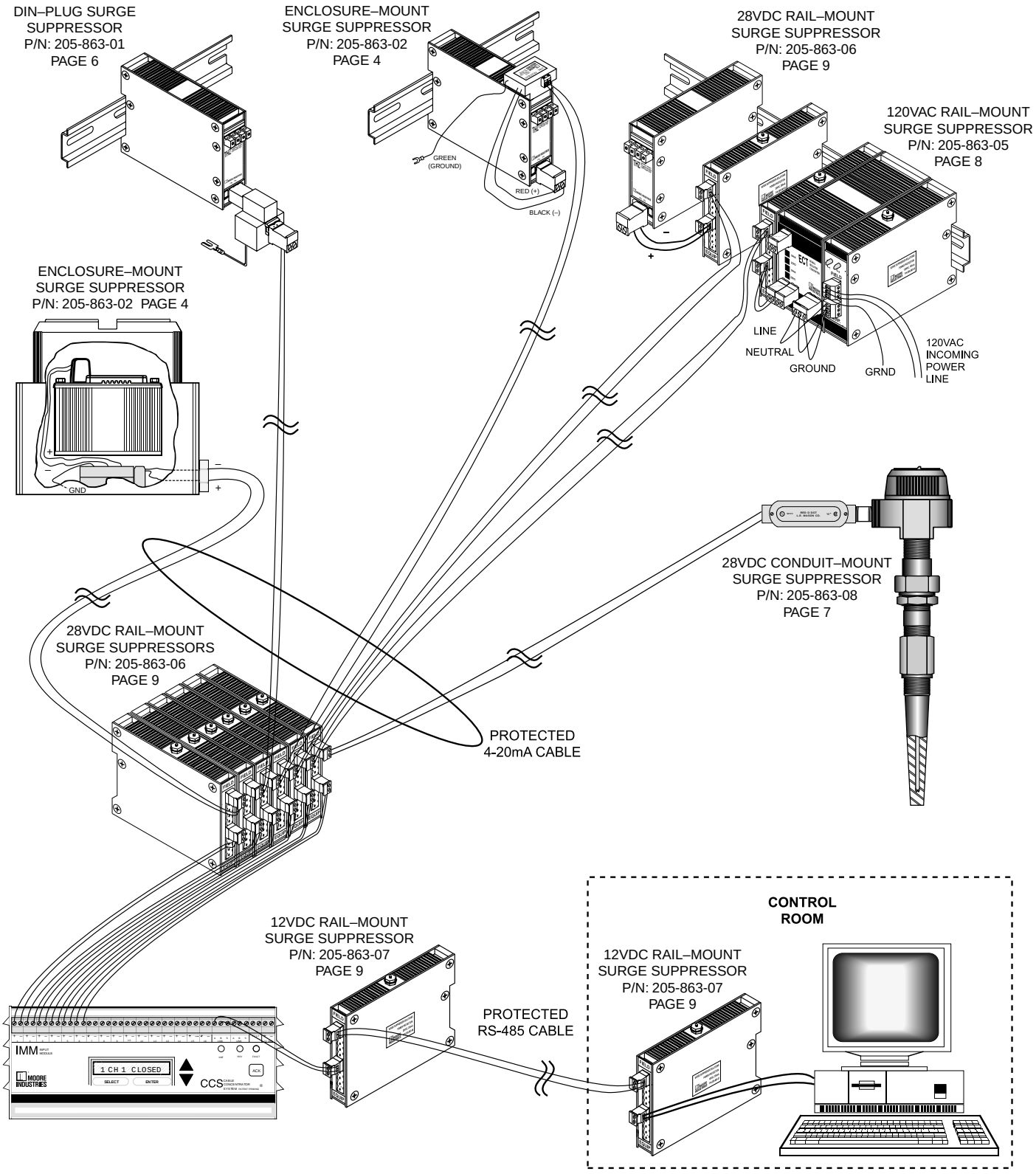
Figure 2. *Sample Loop Installations*



Specifications subject to change.

Enclosure-Mount Surge Suppressor

Part Number 205-863-02

Providing complete loop protection in a compact frame, our Enclosure-Mount Surge Suppressors can be mounted to almost any instrument.

Versatile Protection. This advanced suppressor can be velcro-mounted to the top of any DIN unit, or for a more rugged application, placed inside of a Moore Industries *BH* or *D-BOX* enclosure. Because of its ability to allow HART signals to pass through, you can use this surge suppressor to protect both analog and HART digital/analog signal lines.

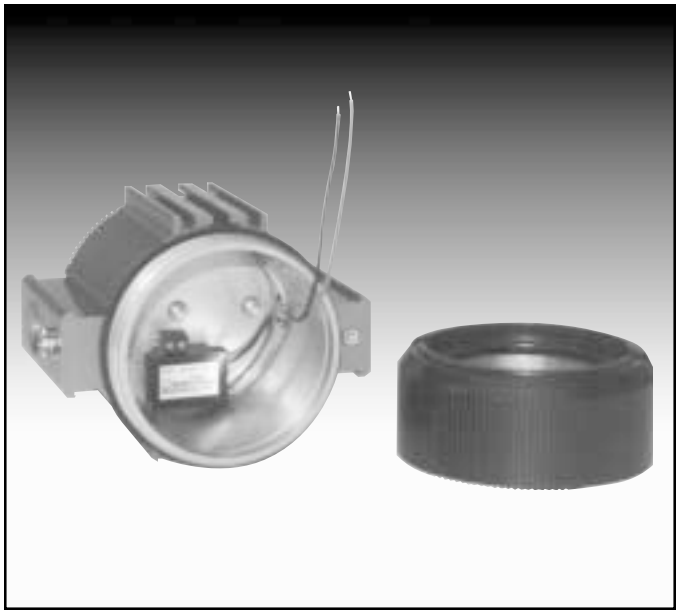
Suppress Harsh Surges. Exceeding severity level 4 of IEC 1000-4-4, this suppressor provides 2.5kA/line of surge protection. Lightning-fast response time stops failures due to lightning, spikes, and overvoltage surges while minimizing other electrical noise.

Perfect for Rugged Environments. This durable suppressor is hermetically sealed and suitable for the most harsh industrial environments.

The Enclosure-Mount Surge Suppressor works with most Moore Industries' units, including the following:

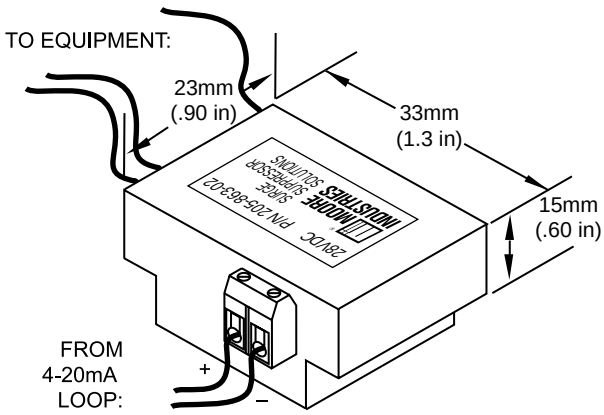
Temperature Transmitters	THZ, TRX, TRY, TDZ, TDY, RIY, TIY
Isolators, Converters, &Transmitters	SCX, ACX, SIY, SIX, ECT[ECD]
And More!!!	DDS, MDS, DDA, IPT

Select the suppressor that is appropriate for your application.



The Enclosure-Mount Surge Suppressor *can be mounted easily either inside one of our rugged field-mount enclosures or on top of a Moore Industries DIN-style instrument housing.*

Figure 3. *The compact enclosure-mount surge suppressor fits into most enclosures and housings.*



Specifications

Performance	**Operating Voltage:** 28 Volts **Maximum Operating Voltage:** 30 Volts **Maximum Operating Current:** 200mA **Clamping Action Turn-On:** 31.4 Volts	**Performance (Continued)**	**Maximum Clamping @2kA (8x20 µsec):** 46 Volts **Maximum Surge Voltage:** 20kV **Maximum Surge Current (8x20 µsec):** 2.5kA/line **Current Leakage/Line at Operating Voltage:** 5 µA	**Performance (Continued)**	**Capacitance/Line at Rated Voltage:** 500pF **Response Time:** <1 nanosecond
				Ambient Conditions	**Operating & Storage Temperature:** –40°C to +85°C (–40°F to +185°F)

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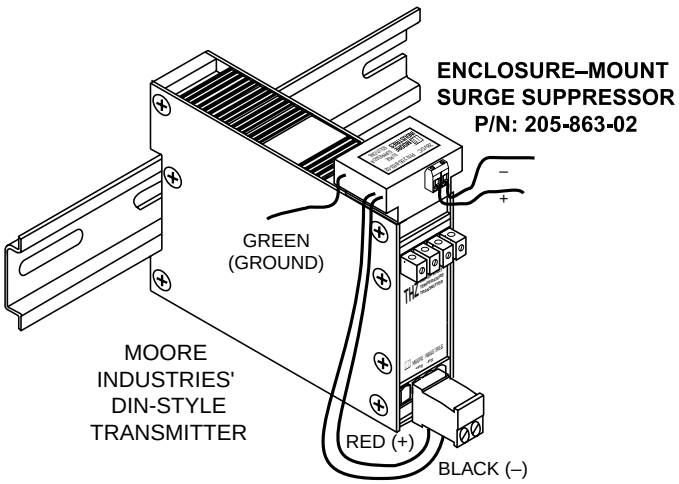
Installation

Field-Mount Enclosure: Connection & Grounding– For a typical field-mount enclosure installation of this product, establish the electrical connections before mounting the surge suppressor. Connect the wires from the field to the terminal block headers on the front of the surge suppressor. Connect the red(+) and black(–) wires from the side of the surge suppressor to the appropriate terminal of your unit. Finish the connections by connecting the green ground wire on the surge suppressor to a good earth ground, such as a ground screw attached to the base of the enclosure. Equipment ground and suppressor ground should be common.

Mounting–Mount the surge suppressor to the side or bottom of your enclosure using the supplied velcro, as shown in Figure 5. Though maintenance is not required, we recommend that the instrument zero be checked after installation.

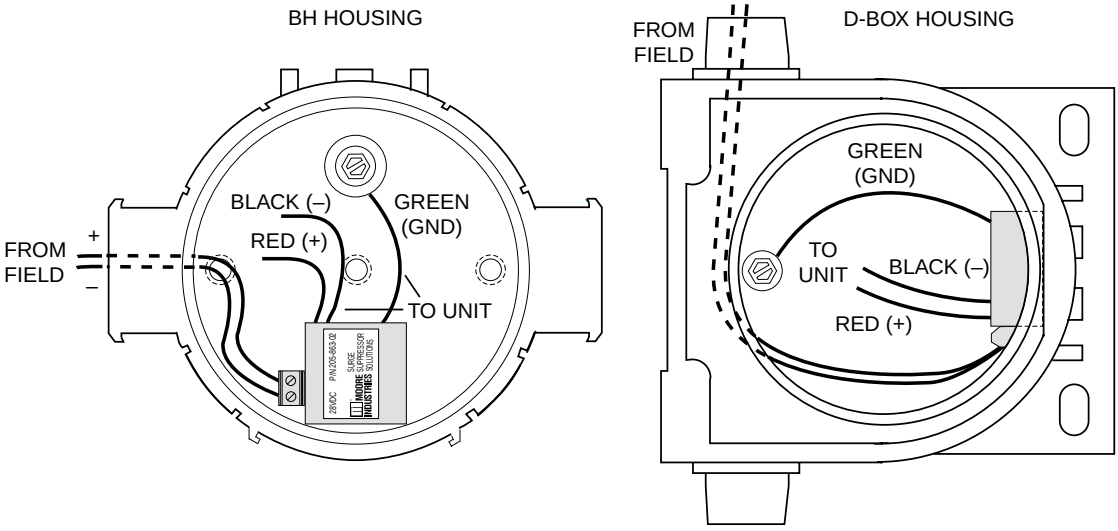
DIN-Style Housing: Connection & Grounding– Connect the wires as shown in Figure 4, with the wires from the field connecting to the terminal block on the front of the surge suppressor, and the wires from the side of the surge suppressor going to ground and to the terminal block of the protected unit.

Figure 4. *The compact Enclosure-Mount Surge Suppressor mounts onto or inside of most enclosures and housings.*



Mounting–To finish the installation on a DIN unit, mount the surge suppressor to the top of the DIN unit using the supplied velcro.

Figure 5. *The Enclosure-Mount Surge Suppressor provides remarkable surge protection for loops that use BH and D-BOX mounted devices.*



Specifications subject to change.

DIN-Plug Surge Suppressor

Part Number 205-863-01

Suppress Harsh Surges. Exceeding severity level 4 of IEC 1000-4-4 and 1000-4-5, this unit provides 2.5kA/line of surge protection. Lightning-fast response time stops failures due to lightning, spikes, and overvoltage surges while minimizing other electrical noise.

Compact Power. The DIN-Plug Surge Suppressor is designed to fit onto any Moore Industries' 2-prong terminal block header. Economical, small, and powerful, this unit has the suppression technology you need for use in the field with a compact design that will fit in the most cramped of control rooms. It is available in a 28-volt model that protects most Moore Industries instruments, including the following, from overvoltage current running along 4-20mA lines:

Temperature Transmitters	THZ, TRX, TRY, RIY, TIY, THZ
Isolators, Converters, &Transmitters, and More!	SIY, ECT [DIN], SPT

***The DIN-Plug Surge Suppressor** is a perfect fit for any DIN unit with our 2-terminal header.*

***Figure 6.** Sample Installation of the DIN-Plug Surge Suppressor*

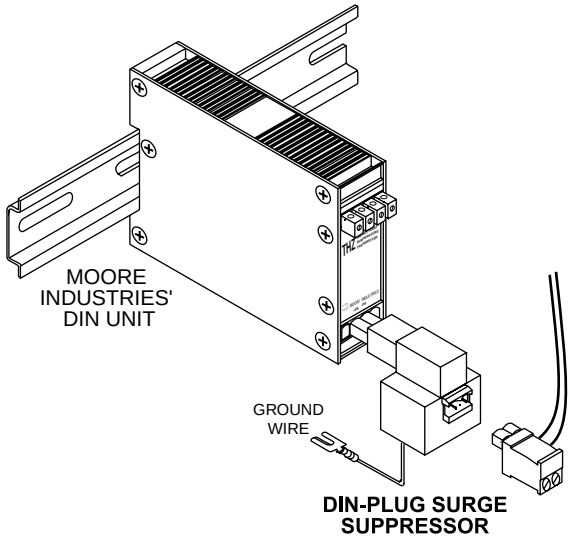
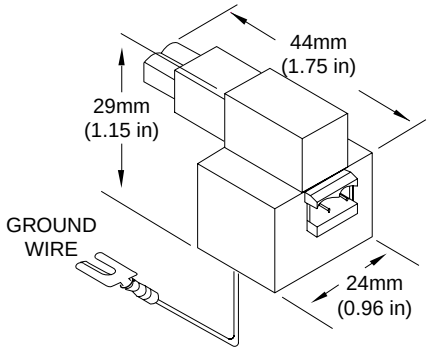


***Figure 7.** Dimensions of the DIN-Plug Surge Suppressor*



Installation

Connecting & Grounding–For a typical installation of this product, plug the surge suppressor unit into the input or output loop terminal block of the Moore Industries' DIN unit (as shown in Figure 6). Plug the terminal block header into the back of the surge suppressor. The suppressor must be connected to a good earth ground. Equipment and suppressor ground should be common. Maintenance is not required, but we recommend that instrument zero be checked after installation.

Specifications

Performance	**Operating Voltage:** 28 Volts **Maximum Operating Voltage:** 30 Volts **Maximum Operating Current:** 200mA **Clamping Action Turn-On:** 31.4 Volts	**Performance (Continued)**	**Maximum Clamping @2kA (8x20 µsec):** 46 Volts **Maximum Surge Voltage:** 20kV **Maximum Surge Current (8x20 µsec):** 2.5kA/line **Current Leakage/Line at Operating Voltage:** 5 µA	**Performance (Continued)**	**Capacitance/Line at Rated Voltage:** 500pF **Response Time:** <1 nanosecond
				Ambient Conditions	**Operating & Storage Temperature:** –40°C to +85°C (–40°F to +185°F)

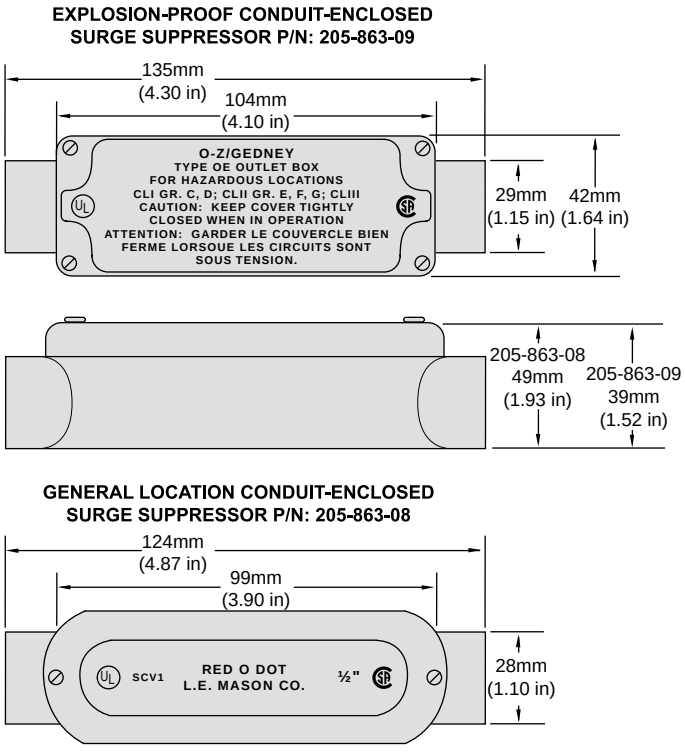
Specifications subject to change. Printed in U.S.A.

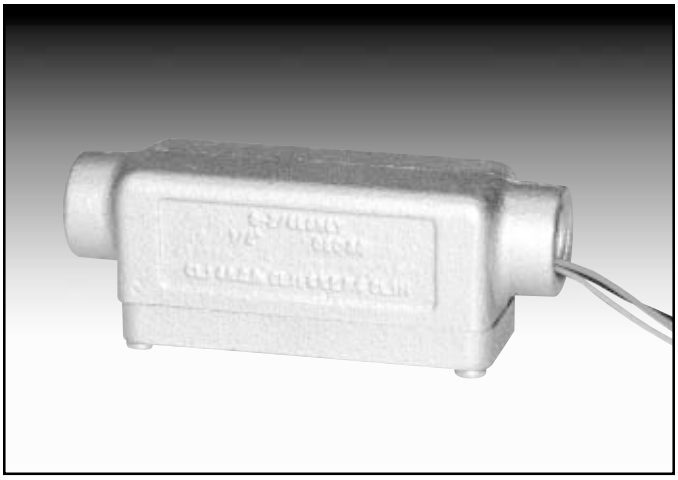
Conduit-Enclosed Suppressors
Explosion-Proof P/N 205-863-09
General Location P/N 205-863-08

Practical Protection. The Conduit-Enclosed Surge Suppressor can be attached to any ½" NPT pipe to provide quality surge suppression and either explosion-proof or general location certification. This advanced surge protection and space-saving design makes these suppressors ideal solutions for protecting your field-mounted instruments, like the *LH* enclosure, that don't have room for an Enclosure-Mount Surge Suppressor.

HART Pass-Through. Both of the Conduit-Enclosed Surge Suppressors pass HART signals, making them effective choices for both digital and analog lines.

Figure 8. *Dimensions of the Conduit-Enclosed Surge Suppressors*





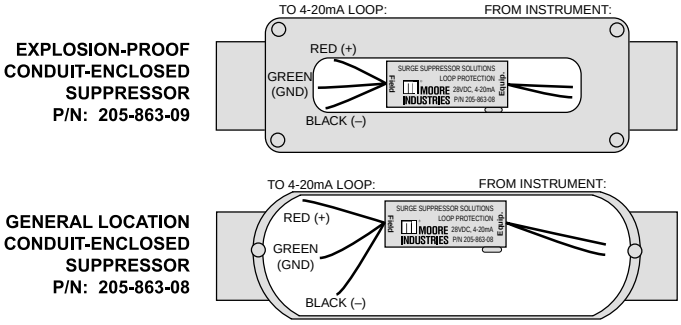
Installation

Connecting–The conduit-style surge suppressor allows you to connect any ½" NPT pipe directly to the surge suppressor. Open the case and connect the wires from the 4-20mA loop to the FIELD side of the unit. Connect the positive and negative wires on the EQUIP side of the unit to the instrument's terminals.

Mounting–Mount the suppressor as close as possible to the equipment it is protecting. If attaching to an explosion-proof housing, make sure to follow the proper standards.

Grounding–A separate earth ground is not required if the instrument/conduit is properly grounded. Use #12 AWG or larger if a ground wire is needed.

Figure 9. *Installation of the Conduit-Enclosed Surge Suppressors*



Specifications

Performance	**Operating Voltage:** 28 Volts **Maximum Operating Voltage:** 30 Volts **Maximum Operating Current:** 200mA **Clamping Action Turn-On:** 31.4 Volts	**Performance (Continued)**	**Maximum Clamping @2kA (8x20 µsec):** 46 Volts **Maximum Surge Voltage:** 20kV **Maximum Surge Current (8x20 µsec):** 2.5kA/line **Current Leakage/Line at Operating Voltage:** 5 µA	**Performance (Continued)**	**Capacitance/Line at Rated Voltage:** 500pF **Response Time:** <1 nanosecond
				Ambient Conditions	**Operating & Storage Temperature:** –40°C to +85°C (–40°F to +185°F)

Specifications subject to change.

AC Rail-Mount Surge Suppressor

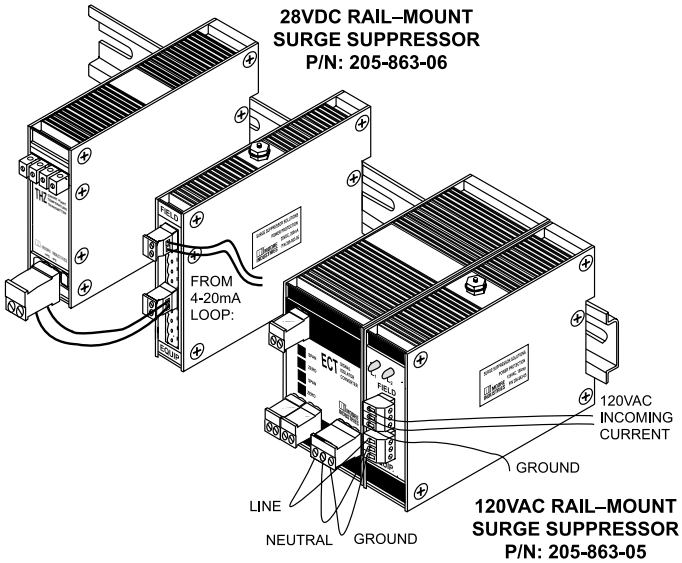
Part Number 205-863-05

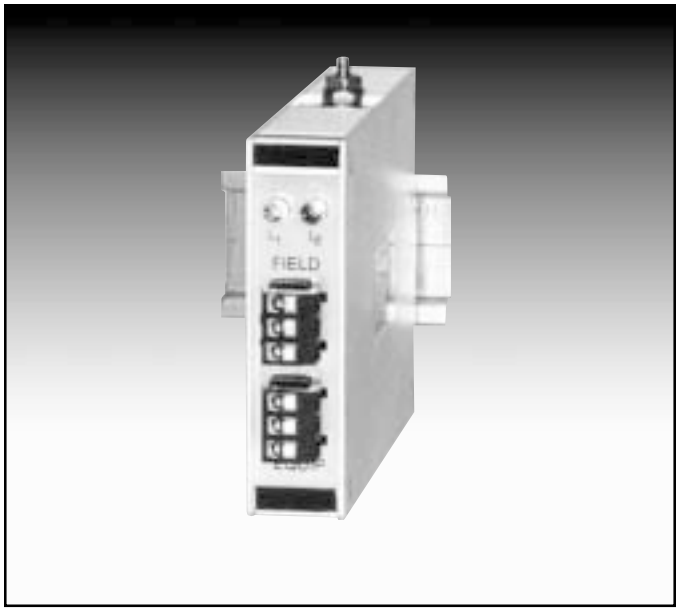
Universal Protection. The Rail-Mount Surge Suppressor works with any Moore Industries' unit that requires 120VAC power. This includes the SPA, SPT, FCT, ECA, PIT, PVT, PWT, PWV, PAC, and PAV.

Multistage Protection. This suppressor protects your process with two levels of protection. Two front-mounted LEDs (L_1 for primary protection, L_2 for secondary) illuminate when the suppressor is active.

Tough Protection. Exceeding severity Category B of ANSI/IEEE C62.41-1991 recommendations, this unit's sub-nanosecond response time stops failures due to lightning, spikes, and overvoltage surges while minimizing other electrical noise.

Figure 10. *Typical installation process for our AC and DC Rail-Mount Surge Suppressors.*





The AC Rail-Mount Surge Suppressor *is designed for use with Moore Industries' 120VAC transmitters, alarms, and other units.*

Installation

Mounting–The Rail-Mount Surge Suppressor can be quickly and easily mounted on any standard DIN rail.

Connecting–Connect each incoming power line to the appropriate plug of the FIELD terminal block (as shown in Figure 10). Connect wires from the protected instrument to the appropriate plug of the EQUIPMENT terminal block of the surge suppressor.

Grounding–Both the protected unit's housing and the suppressor must be connected to a common good earth ground, such as from the DIN Rail foot to the grounded rail, the ground bolt on top of the suppressor, or hard-wired terminal blocks. Keep the ground wire (#12 AWG) short and place the suppressor as close as possible to the equipment it is protecting.

Monitoring–The front-mounted LEDs on the AC unit will notify you if a surge has damaged the suppressor. If L_1 turns off, the unit is working, but should be replaced. If L_2 turns off, the unit is not functioning.

Specifications

Performance	**Operating Line Voltage @ 50/60Hz:** 125VAC **Maximum Operating Line Current:** 5 Amps **Maximum Line Current:** 6 Amps **Clamping Action Turn-On:** 210 Volts **Maximum Clamping Voltage @ 500Amps,**	**Performance (Continued)**	**Line–Neutral:** 295V peak **Line–Ground:** 345V peak **Neutral–Ground:** 330V peak **Maximum Transient Voltage (8x20 µsec):** 20kV **Maximum Transient Current (1.2x50 µsec):** 10kA **Frequency Attenuation (dB) @ 100kHz/10Mhz:** –30/–50	**Performance (Continued)**	**Maximum Leakage Current, Each Line to Ground:** @120VAC, 60Hz, 0.5mA **Response Time:** <1 nanosecond
				Ambient Conditions	**Operating & Storage Temperature:** –40°C to + 85°C (–40°F to + 185°F)

Specifications subject to change. Printed in U.S.A.

Loop & Data Line Rail-Mount Surge Suppressors

28VDC Loop Line Part Number 205-863-06

12VDC Data Line Part Number 205-863-07

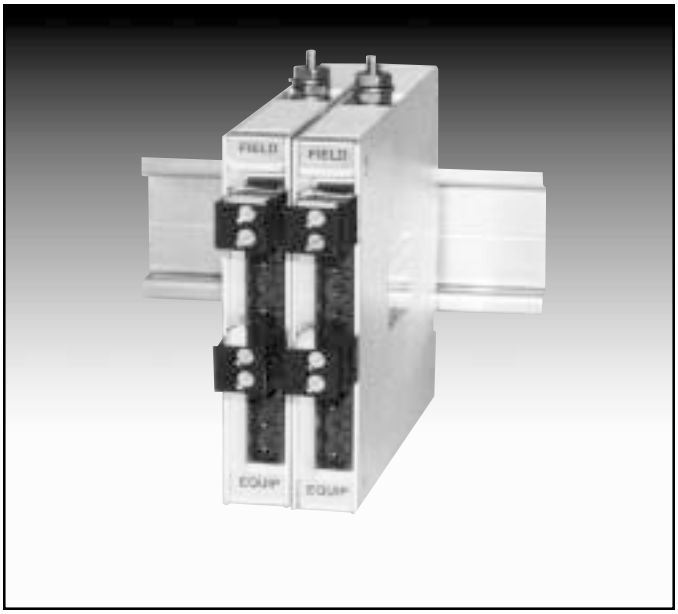
The Rail-Mount Surge Suppressor is designed to mount on any Top Hat or "G" type DIN rail. This versatile unit is available in models that will protect both analog or digital signals.

Protect Almost Any Unit. The Rail-Mount Surge Suppressor is available in a 12 and 28VDC version, and works with most Moore Industries' units. The 28VDC version is designed to provide superior protection to 4-20mA loop lines. Its narrow housing combined with the ability to mount directly on a DIN-style rail makes it perfect for spaces that won't allow you to fit a DIN-plug or Enclosure-mount suppressor.

Protect Communication Lines. The 12VDC version provides you with incredible protection specifically designed for communications lines. This unit will work with RS-422, and RS-485 communication lines. Put one of these units on both ends of your long runs of communications wire to ensure that your transmitter and receiver are both protected from overvoltage damage.

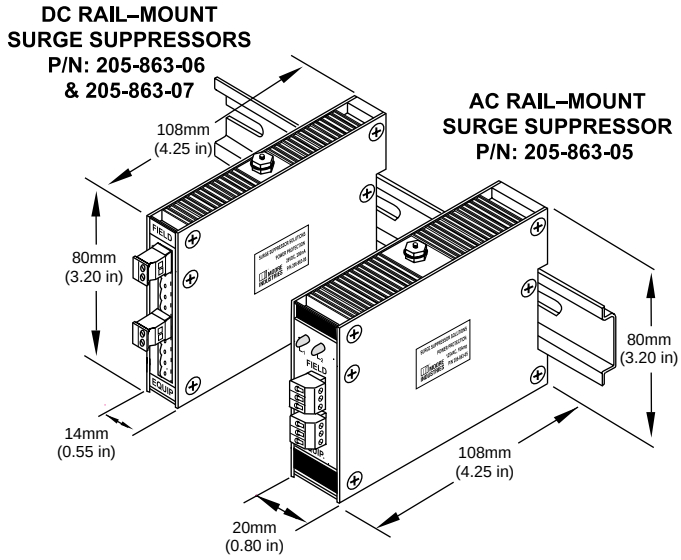
Tough Protection. Exceeding severity Level 4 of IEC 1000-4-4 recommendations, this unit's sub-nanosecond response time stops failures due to lightning, spikes, and overvoltage surges while minimizing other electrical noise.

Installation. For installation instructions, follow the directions for the AC Rail-Mount Surge Suppressor on page 8.



*The **DC Rail-Mount Surge Suppressor Family** are multipurpose units that can protect analog, digital/analog, or communication lines.*

***Figure 11.** Dimensions of our AC and DC Rail-Mount Surge Suppressors.*



Specifications

Performance	**RS Applications:** 12-Volt Unit: RS-422, RS-485; 28-Volt Unit: none **Operating Voltage:** 12-Volt Unit: 12 Volts; 28-Volt Unit: 28 Volts **Maximum Operating Voltage:** 12-Volt Unit: 14 Volts; 28-Volt Unit: 30 Volts **Maximum Operating Current:** 200mA	**Performance (Continued)**	**Clamping Action Turn-On:** 12-Volt Unit: 14.3 Volts; 28-Volt Unit: 31.4 Volts **Maximum Clamping @2kA (8x20 µsec):** 12-Volt Unit: 22 Volts; 28-Volt Unit: 46 Volts **Maximum Surge Voltage:** 20kV **Maximum Surge Current (8x20 µsec):** 3kA/line	**Performance (Continued)**	**Current Leakage/Line at Operating Voltage:** 5 µA **Capacitance/Line at Rated Voltage:** 12-Volt Unit: 2000pF; 28-Volt Unit: 500pF **Response Time:** <1 nanosecond
				Ambient Conditions	**Operating & Storage Temperature:** –40°C to +85°C (–40°F to +185°F)

Specifications subject to change.

DC Wire-In Surge Suppressor

Part Number 205-863-04

The DC Wire-In Surge Suppressor provides powerful protection for the 28VDC power lines of your process. Meeting severity level 4 of IEC 1000-4-4 and 1000-4-5, this surge suppressor's incredible protection and sub-nanosecond speed can save your valuable equipment from electrical damage.

Resists Environmental Interference. This surge suppressor's durable design coupled with RFI/EMI filtering, differential and common mode suppression, and hermetically sealed components makes it ideal for use in hazardous environments.

Protect Almost Any Unit. The DC Wire-In Surge Suppressor works with any Moore Industries' units that require 28VDC power, including the FCT, HIT, SPA, SPT, HFA, MDS, CCS, and DDS.

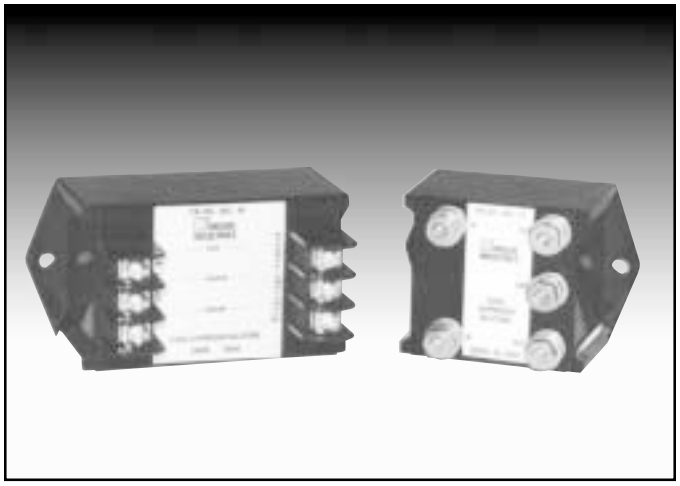
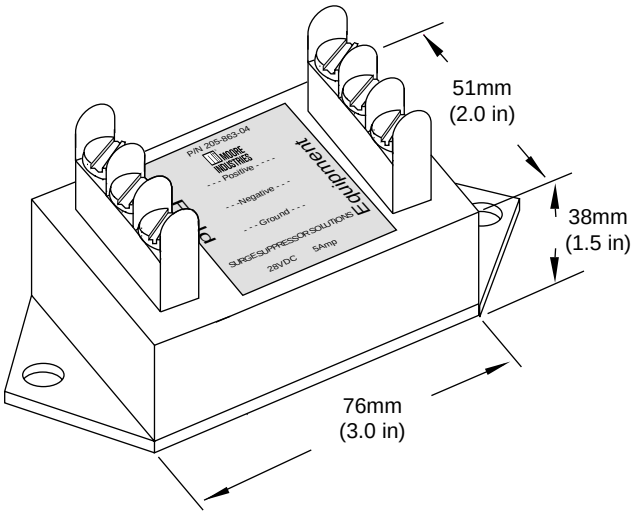


Figure 12. *Dimensions of the DC Wire-In Surge Suppressor*

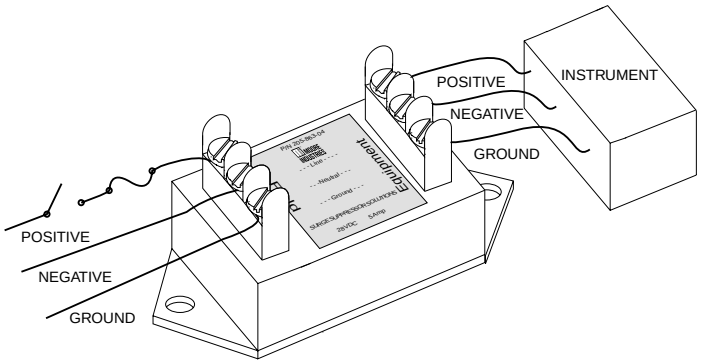


Installation

Connecting–For a typical installation of this product, connect this unit to your DC power distribution after the power switch and fuse, and as close to the electronic equipment it protects as possible. Connect the power lines as shown in Figure 13.

Grounding–The ground terminal must be connected to a good earth ground of AWG# 14 or larger. This unit contains no internal fuse and can fail short under direct lightning exposure; therefore, proper fusing is essential. Heat sinking is not required.

Figure 13. *Sample installation of the DC Wire-In Surge Suppressor*



Specifications

Performance	**Operating Voltage:** 28 Volts **Maximum Operating Voltage:** 30 Volts **Maximum Operating Current:** 5.0 Amps **Maximum Clamping @500A:** 46 Volts	**Performance (Continued)**	**Maximum Surge Voltage:** 20kV **Maximum Surge Current (8x20 µsec):** 10kA **Current Leakage/Line at Operating Voltage:** 0.5mA	**Performance (Continued)**	**Response Time:** <1 nanosecond
				Ambient Conditions	**Operating & Storage Temperature:** –40°C to +85°C (–40°F to +185°F)

Specifications subject to change. Printed in U.S.A.

AC Wire-In Surge Suppressor

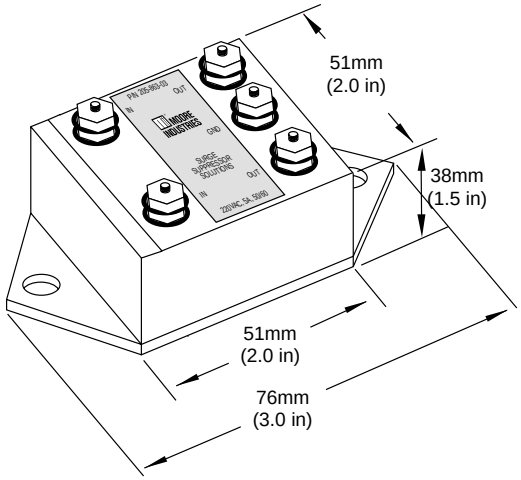
Part Number 205-863-03

The AC Wire-In Surge Suppressor provides powerful protection for the 220VAC power lines of your process. Meeting severity level 4 of IEC 1000-4-4 and 1000-4-5, this surge suppressor's incredible protection and sub-nanosecond speed can save your process from electrical damage.

Resists Environmental Interference. This surge suppressor's durable design coupled with RFI/EMI filtering, differential and common mode suppression, and hermetically sealed components makes it ideal for use in severe environments.

Protect Almost Any Unit. The AC Wire-In Surge Suppressor works with any Moore Industries' unit that requires 220VAC power, including the SPA, SPT, FCT, ECA, PIT, PVT, PWT, PWV, PAC, and PAV.

Figure 14. *Dimensions of the AC Wire-In Surge Suppressor*

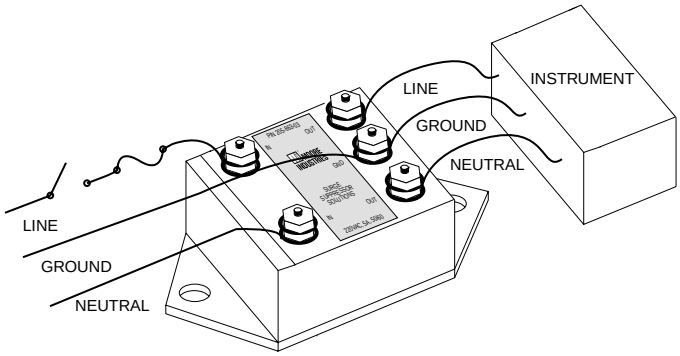


Installation

Connecting–For a typical installation of this product, connect this unit to your instrument after the power switch and fuse, and as close to the electronic equipment it protects as possible. Connect the input power lines to the appropriate place on the FIELD side of the surge suppressor, as shown in Figure 15. Connect the power lines going to the protected unit to the appropriate connections on the EQUIPMENT side of the surge suppressor.

Grounding–The ground terminal must be connected to a good earth ground (AWG# 14 or larger). Protected equipment ground and suppressor ground should be common. Dress output "clean" lines away from incoming lines. This suppressor contains no internal fuse and can fail short under direct lightning exposure; therefore, proper fusing is essential. Heat sinking is not required.

Figure 15. *Sample installation of the AC Wire-In Surge Suppressor*



Specifications

Performance	**Operating Line Voltage @ 50/60Hz:** 220/240VAC **Maximum Operating Line Current:** 5 Amps **Maximum Line Current:** 6 Amps **Maximum Transient Voltage:** 6kV **Maximum Transient Current:** 4kA **Clamping Action Turn-On:** 390 Volts	**Performance (Continued)**	**Maximum Clamping Voltage @ I_t:** Line-Neutral: 410 Volts; Line-Ground: 430 Volts; Neutral-Ground: 430 Volts **Suppressed Voltage Rating (V_{PM}) UL 1449 2nd Edition TVSS:** Line-Neutral: 600V peak; Line-Ground: 700V peak; Neutral-Ground: 600V peak **Frequency Attenuation:** 100kHz -30dB; 10MHz -60dB	**Performance (Continued)**	**Maximum Leakage Current, Each Line to Ground:** @220VAC 60Hz, 0.5mA **Response Time:** <1 nanosecond
				Ambient Conditions	**Operating & Storage Temperature:** –40°C to +85°C (–40°F to +185°F)

Specifications subject to change.

Superior Surge Suppressor Solutions

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700-710-100 A

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MOORE INDUSTRIES

AC Rail-Mount Surge Suppressor

Part Number 205-863-11

January 2005 | User's Manual

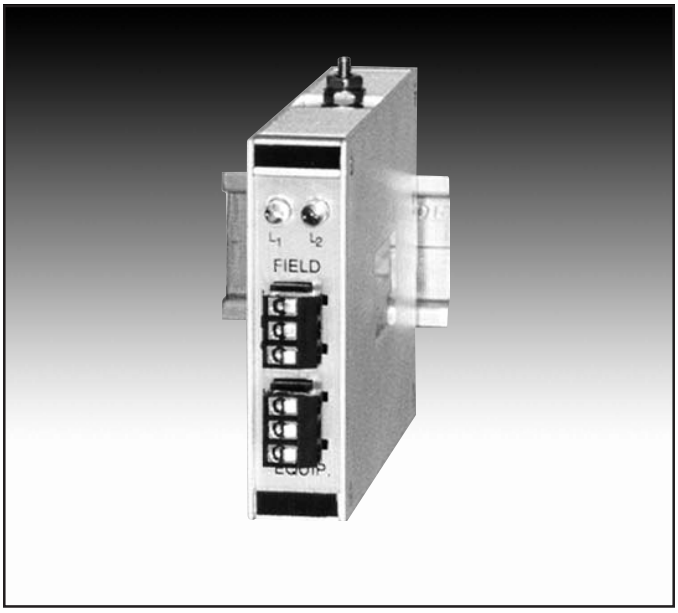
AC Rail-Mount Surge Suppressor

Part Number 205-863-11

Universal Protection. The Rail-Mount Surge Suppressor works with any Moore Industries' unit that requires 220VAC power. This includes the SPA, SPT, FCT, ECA, PIT, PVT, PWT, PWV, PAC, and PAV.

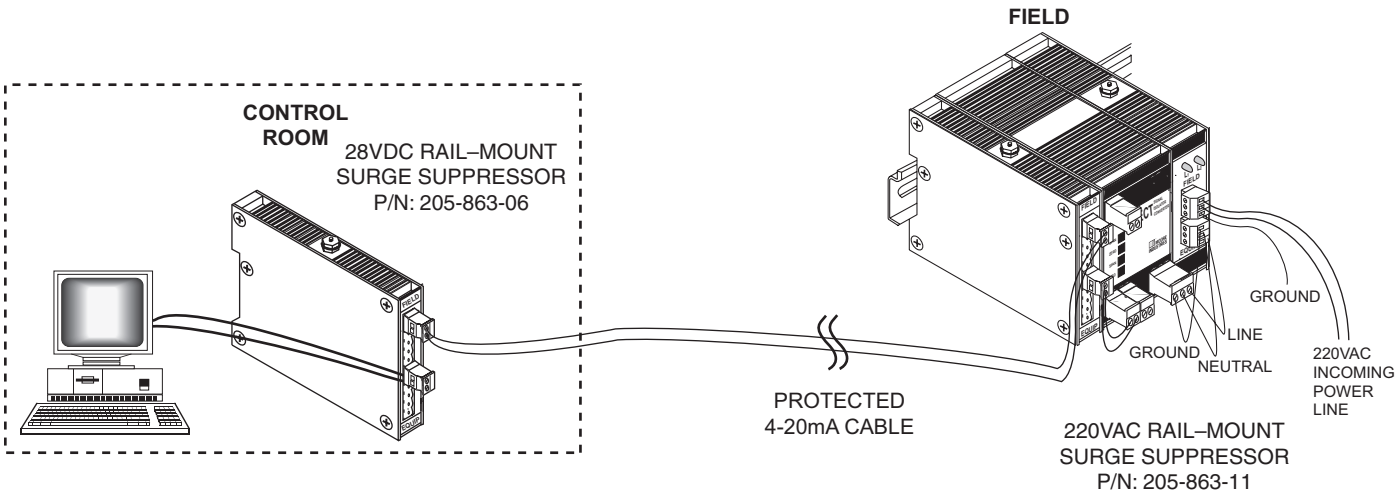
Multistage Protection. This suppressor protects your process with two levels of protection. Two front-mounted LEDs (L_1 for primary protection, L_2 for secondary) illuminate when the suppressor is functioning properly. When L_1 turns off, the suppressor still has backup protection working, but should be replaced. When L_2 turns off, the suppressor is no longer functioning.

Tough Protection. Exceeding severity Category B of ANSI/IEEE C62.41-1991 recommendations, this unit's sub-nanosecond response time stops failures due to lightning, spikes, and overvoltage surges while minimizing other electrical noise.



The AC Rail-Mount Surge Suppressor *is designed for use with Moore Industries' 220VAC transmitters, alarms, and other units*

Figure 1. *For complete loop protection, it is necessary to place surge suppressors at both ends of the loop*



The Interface Solution Experts

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Specifications and information subject to change without notice.

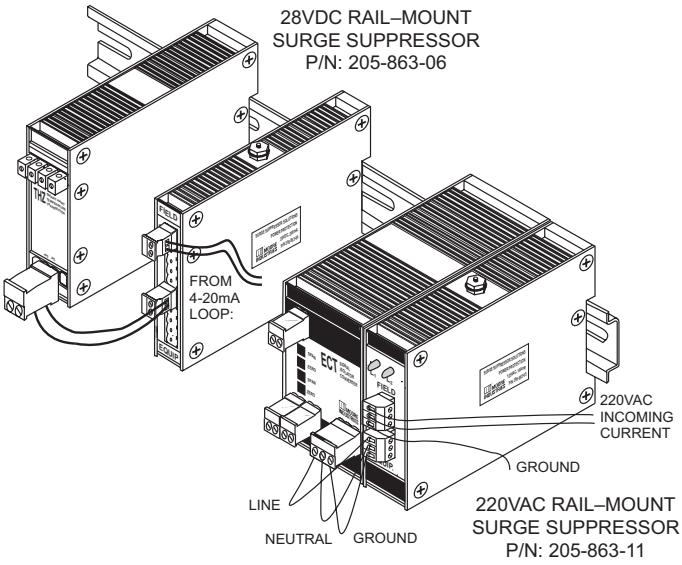
AC Rail-Mount Surge Suppressor

Installation

Mounting–The Rail-Mount Surge Suppressor can be quickly and easily mounted on any standard DIN rail.

Connecting–Connect each incoming power line to the appropriate plug of the FIELD terminal block (as shown in Figure 2). Connect wires from the protected instrument to the appropriate plug of the EQUIPMENT terminal block of the surge suppressor.

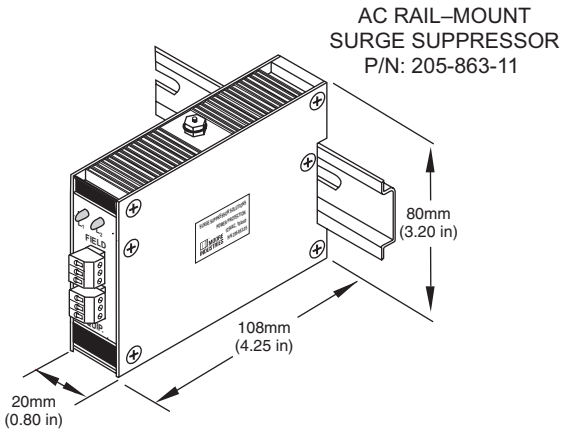
Figure 2. *Typical installation process for our AC and DC Rail-Mount Surge Suppressors*



Grounding–Both the protected unit's housing and the suppressor must be connected to a common good earth ground, such as from the DIN Rail foot to the grounded rail, the ground bolt on top of the suppressor, or hard-wired terminal blocks. Keep the ground wire (#12 AWG) short and place the suppressor as close as possible to the equipment it is protecting.

Monitoring–The front-mounted LEDs will notify you if a surge has damaged the suppressor. If L_1 turns off, you still have backup protection, but should replace the unit. If L_2 turns off, the unit is no longer functioning.

Figure 3. *Dimensions of our AC Rail-Mount Surge Suppressor*



Specifications

Performance	**Operating Line Voltage @50/60Hz:** 220VAC **Maximum Operating Line Current:** 5 Amps **Maximum Line Current:** 5 Amps **Minimum Clamping Turn-On:** 390V **Maximum Clamping Voltage@500Amps,**	**Performance (Continued)**	**Line–Neutral:** 650V peak **Line–Ground:** 650V peak **Neutral–Ground:** 650V peak **Maximum Transient Voltage (1.2x50 microseconds):** 20kV **Maximum Transient Current (8x20 microseconds):** 10kA **Frequency Attenuation (dB)@100kHz/10MHz:** -30/-50	**Performance (Continued)**	**Maximum Leakage Current, Each Line to Ground:** @220VAC, 60Hz, 1.0mA **Response Time:** <1 nanosecond
				Ambient Conditions	**Operating & Storage Temperature:** -40°C to + 85°C (-40°F to + 185°F)

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